

REMARKS

Claims 1 and 4-6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Manabe JP '501. Applicant traverses this rejection because Manabe fails to disclose or suggest that the difference between the average rim thicknesses of adjacent rim sections is between 0.5 mm and 5 mm. Additionally, the examiner has not fairly considered the test results described in the applicant's specification, together with the Declaration of Atsushi Tanno, which was previously submitted.

Manabe is directed to a disk wheel. The reference teaches that the wheel is divided in the axial direction to form a plurality of sections, 26-40. The examiner asserts that Manabe discloses a wheel rim having different thicknesses at different locations in the rim. However, as acknowledged by the examiner, the reference fails to disclose the relationship of rim thicknesses of adjacent equal sections. That is, Manabe fails to teach that the difference between the average rim thicknesses of each pair of adjacent equal sections is 0.5 mm to 5 mm, as recited in claim 1.

In contrast, the present application discloses that the difference between the average rim thicknesses of each pair of adjacent equal sections is 0.5 mm to 5 mm, so that the average thickness of the rim is generally between 3 mm and 8 mm on a disk side and between 2 mm and 3 mm on the flange side. In addition to reducing the weight of a wheel, using the thickness ratio recited in claim 1 advantageously allows a spring constant of the reduced-weight rim to be maintained relative the wheel before the weight is reduced to prevent a

natural frequency of the wheel from decreasing (See paragraph [0006] of the present Specification).

While the examiner asserts that one of ordinary skill would have been motivated to reduce the weight of the wheel while retaining suitable strength properties to prevent the wheel from collapsing under the weight of a vehicle, there is no indication that one of ordinary skill in the art would have been motivated to maintain the spring constant of the wheel while reducing the wheel weight, as disclosed in the present specification. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1 and 4-6.

Moreover, the examiner asserts that the road noise tests in applicant's specification and the Declaration of Atsushi Tanno do not show unexpected results because the results for Present Invention Wheels 2-4 are "not much lower" than Prior Art Wheel 1. However, the examiner seems to disregard the fact that, as indicated in Table 1 of the present Specification, Present Invention Wheels 2-4 are 20-25% lighter than Prior Art Wheel 1. Applicants note that reducing the weight of a wheel using conventional practices generally leads to an increase in the amount of road noise produced by the wheel. Accordingly, it is surprising that Prior Art Wheels 2-4, which have a significantly reduced weight when compared with Prior Art Wheel 1, also produce less road noise than Prior Art Wheel 1.

As an example, the weight of both Present Invention Wheel 3 and Prior Art Wheel 2 have been reduced by the same amount in comparison to Prior Art Wheel 1, as shown in Table 1 of the present specification. However, Prior Art Wheel 2 produces a noise level that was markedly increased from that of Prior Art Wheel 1, while Present Invention


Wheel 3 produced a noise level that was markedly decreased from Present Invention Wheel 1. Additionally, while the examiner notes that the difference in sound intensity, as measured in decibels, seems relatively small, the decibel is a logarithmic unit, and as such a doubling in the volume of a given sound is associated with an increase of only about 3 decibels. For these additional reasons, applicant traverses the rejection of claims 1 and 4-6.

For the foregoing reasons, applicant believes that this case is in condition for allowance, which is respectfully requested. The examiner should call applicant's attorney if an interview would expedite prosecution.

If a Petition under 37 C.F.R. §1.136(a) for an extension of time for response is required to make the attached response timely, it is hereby petitioned under 37 C.F.R. §1.136(a) for an extension of time for response in the above-identified application for the period required to make the attached response timely. The Commissioner is hereby authorized to charge fees which may be required to this application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069.

Respectfully submitted,

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